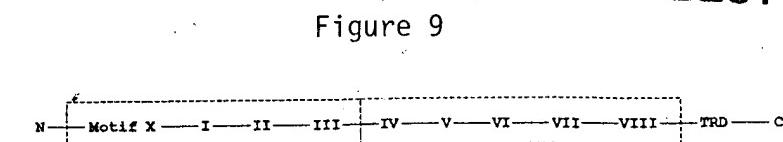
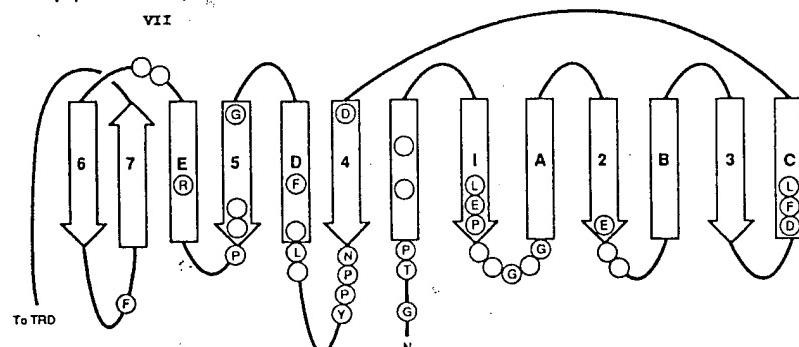


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Figure 9



Group γ



Protein	Motif X	VIII	VI	V	IV	X	I	II	Motif III
AccI (N6)	30	55 VLERAfGfGvYssAI	77 nkaRFEUD	93 eYfdDmenV					
BanIII	16	49 gLDGscdceLlslsL	69 fnnnidNIE	87					
BsuBI	26	52 VLDAgabicsLtsAF	79 dhlhLETD	98					
CviBIII	26	53 TLERscGtceIIsec	75 siKGVELD	100					
Eco57I	14	39 VLERscGtceIIsec	65 cfeLFDT	90					
HincII	10	34 TLERscGtceIIsec	55 nltsYEID	71					
PaeR7I	-10	22 VLERscGtceIIsec	83 KreGKSAAn	100					
PstI	36	61 VLDAgabicsLtaAF	110 KirAMEFE	124					
TaqI	19	43 VLERscGtceIIsec	66 RfvGVED	85					
TthHB8I	17	41 VLERscGtceIIsec	64 RfvGVED	83					
VspI	116	141 FcDpccQcGfYlia	181 devALETS	195					
EcoRI	50 PrvsnFFkYFavnFdnL	79 nkEGFssseaaknGF	104 KlvfdDIS	123 sesiDLlk					
COMtase	41 nvgdakggIMDaVlreY	62 VLERscGtceIIsec	85 RlltMEMN	117 gaSqDLIpq					
HhaI (C5)	298 GNSVvinVlqyIaynIG	14 FIDLFaGlgFrLAL	35 cvysnEWD	56 kpeGDIqv					

Protein	Motif IV	Motif V	Motif VI	Motif VII
AccI (N6)	117	154	190	190
BanIII	132	166	202	202
BsuBI	137	168	204	204
CviBIII	113	141	178	178
Eco57I	110	149	185	185
HincII	85	123	159	159
PaeR7I	114	149	185	185
PstI	146	177	213	213
TaqI	99	141	177	177
TthHB8I	97	139	175	175
VspI	211	265	310	310
EcoRI	133 sDiVVtNPPFslfreyld	175 NLikenkiIgvhlgR--GvsgFIVPehYe	208 aRidsngnriIspnn	
COMtase	135 lDmWF1Dhwk-----	147 yLpdLLlekcglrK--GtVlLaDNViP	183 VRgsssfechYssYL	
HhaI (C5)	72 hDiLcagfPCQAfisgk.	99 tLffdI-aRiv-rekK--PKVVFMEVNkN	136 VKntMnelDYSfahkV	

Protein	Motif VIII	MW	Target	Swissprot Accession Number
AccI (N6)	209	540 aa	GTMKRC	P25201
BanIII	220 dtkl3saav	580 aa	ATCGAT	P22772
BsuBI	223 rdkarkdde	501 aa	CTGCAG	P33563
CviBIII	194 dkhdcpcdt	377 aa	TCCA	P10835
Eco57I	202 keiwedtl	540 aa	CTGACG	P25240
HincII	177 eskyvhgvs	502 aa	GTGAC	P17744
PaeR7I	203 dtparhsdv	531 aa	GTGAC	P05103
PstI	232 rksarkasd	507 aa	CTGGAG	P00474
TaqI	192 lgeVipqkk	421 aa	TCGA	P14385
TthHB8I	190 lgeVppgrk	428 aa	TCGA	P25749
VspI	333 sqrmekn	408 aa	AUTTAT	Q03055
EcoRI	228 nlcvfirhk	325 aa	GAATTC	P00472
COMtase				
HhaI (C5)	161 QkReiyimi	221 aa	catechol	P22734
		327 aa	GCGC	P05102

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	NXXXXXXXLXELVXKYEXXRSTXLXSTYNETXLRS			
BpmIRM	10	20	30	40
AcuIRM	- - - - - MHI SELVDKYKAHRSTFLKPTYNETQLRND			30
BsgIRM	- - - MVHDHKLELA KLI RNYETNRKECLNSRYNETLLRSD			36
ThaRM	- - - MNRVESKKKL EQL VQQFEKYESTYSASDYKEATLRSS			37
	MSNENYNIDFERVKELILKYEQVKKSGEIKTYNEESTKKD			40
 FLDPLFELLGWDXXNXXGTNXXXREVI XEELEX - - EEXX				
BpmIRM	50	60	70	80
AcuIRM	FI DPLLKSLGWDV DNTKGKTHIL RDVI QEEYIEI KDEETK			70
BsgIRM	YLD PFFELLGWDI KNKAGKPTNEREVVLEEAALKASASEHS			76
ThaRM	FLDPFFELFGWE MRPERITNPADLEVII EESLET - - EKST			75
	FI EPLFKSLGWNFSNRGKTNDS - - VSAEETISK - - -			72
 KXPDYTFRI NGTRKFFVEAKKP - SENIXKXXXKXAFQARRY				
BpmIRM	90	100	110	120
AcuIRM	KNPDYTLRI NGTRKLFVEVKKP - SFNLKSAKAAFQTRRY			109
BsgIRM	KKPDYTFRLFSERKFFLEAKKP - SVHIESDNETAKQVRRY			115
ThaRM	KYIDYVFKNRTTQFLVEAKKP - AESLSK - KDHFQAKSY			113
	KRVDYGFRI NGIPKFFLEAKPLREENIQNNSKYVTQAI DY			111
 GFTAXLXI SVLTNFEXLVI YDXSXKPDXXD - XXXKARXKX				
BpmIRM	130	140	150	160
AcuIRM	GWSANLGI SVLTNFEXLVI YDCRYTPDKSD - NEHIARYKV			148
BsgIRM	GFTA KLKI SVLSNF EYLVI YDT SVKVDGDD - TFNKARIKK			154
ThaRM	AFTTEIPFVILTNFKEFRFYDVSTEPLHNQPDTDKVEEYC			153
	AWMKSCSWAILTNTFETVAVYNADWKE SNYG - - - S - NLL			145
 FXYXEYEXXFDEIXDLLSREAVXSGXLDKXXXK - - - -				
BpmIRM	170	180	190	200
AcuIRM	FSYEEYEEAFDEIKDIISYESANS GALDEMFD - - - -			181
BsgIRM	YHYTEYETHFDEICDLLGRESVYSGNFDKEWLS - - - -			188
ThaRM	FDYKEYVQNF DKLWELFSREAVANRSLAKFYAKRRNI VDS			193
	FILHPNDFLTDERFKYLSKKAFENGELDKIASK - - - -			179
 - - - - - YXNKXXXXXXXXXXFLQQIXXWREXL AEXI XKN				
BpmIRM	210	220	230	240
AcuIRM	- - - - - VNTRVGETFDEYFLQQIENWREKLAKTAIKN			211
BsgIRM	- - - - - IENKI NHFSVDTLFLKQINTWRLLL GEEI YKY			219
ThaRM	PDLIFKLNYQIDKGASLLDI SFLKNLKI WRKSLAENI FNN			233
	- - - - - YGKKQLKNPI DKQLLQDMI HFREVLSKDI VKN			210
 NX - - XLXENEVNEI VQRI LDRLI FL RVCEDRNLEYETLK				
BpmIRM	250	260	270	280
AcuIRM	NT - - ELGEEDVNFI VQRLLNRI I FL RVCEDRTI EKYETIK			249
BsgIRM	QP - - TIQENELNDIVQS YLNRI I FL RVCEDRNLETYQTLL			257
ThaRM	N - - SLNVNVI NEVVQRI LDRLI FIRI I EDRNI ESKEFLK			270
	NQDKHLTQDEVDES VQRI LDRLI FIRNAEDRGLEENQLQS			250

Figure 10-1

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	XI XXXXE - - - - -	XXEL XDL F K XX DRK F N S GL F D F X D HT	
BpmIRM	290	300	310
AcuIRM	SI K N - - - - -	YEEL K DL F Q K S D R K F N S G L F D F I D D T	279
BsgIRM	N F A S S N D - - - - -	F S A L I D K F K Q A D R C Y N S G L F D Q L L T E	290
ThaIRM	E I V E M H E Q D N S I S V K N E L D K L C I E L N K K F N G - - L V F H D H T	308	
	I L R Q W Y E K G K G - H L M K E I S R I Y K D F D D K Y N S - - K L F A H H	286	
	L X X E X X I D N E V L I V I I X X L Y Y P K S P - - - Y D F S V I X S D I L G		
BpmIRM	330	340	350
AcuIRM	L L L E V E I D S N V L I E I F S D L Y F P Q S P - - - Y D F S V V D P T I L S	316	
BsgIRM	Q I I E D I S S - - V F W V I I K Q L Y Y P E S P - - - Y S F S V F S S D I L G	325	
ThaIRM	F V N E A L I D N E I L I V I I D N L Y Y P K S P - - - Y N F R L I K P E I L G	345	
	L C D D L Y I D N E A L Q E V I E G L N H S K D D S Y R Y D F S V I E S D V L G	326	
	N I Y E X F L G E K I X I E X G K T X L X X X X X N X X X - - G V V Y T P S Y I		
BpmIRM	370	380	390
AcuIRM	Q I Y E R F L G Q E I I I E S G G T F H I T E S P E V A A S N G V V P T P K I I	356	
BsgIRM	N I Y E I F L S E K L V I N Q S R V E L V K K P E N L D R - - D I V T T P T F I	363	
ThaIRM	R I F E Q F L G E K I E I I D G K I T L G L K D I N K K S G - G V Y Y T P S Y I	384	
	N I L K S T P - K R A K L E E S K T H R K E Q - - - - - G I Y Y T P S Y I	357	
	V E X I V K N T V X P K X X - G K T X E E L X Q L K I A D I A C G S G S F L I S		
BpmIRM	410	420	430
AcuIRM	VE Q I V K D T L T P L T E - G K K F N E L C N L K I A D I C C G S G T F L I S	395	
BsgIRM	I N D I L R N T V L P K C Y - G K T D I E I L Q L K F A D I A C G S G A F L L E	402	
ThaIRM	V E K I V E N T L S K K L H N D I T I E N L E Q I K I A D I A C G S G S F L I S	424	
	V D Y I V K N T V G E Y I K - T H T P E E I K K V R I L D P A C G S G S F L I R	396	
	S Y K X L X D K X X X X Y X X X X X D D S Q - - - - - L V X X X X G X L X L T		
BpmIRM	450	460	470
AcuIRM	S Y D F L V E K V M E K I I E E N I D D S D - - - - - L V Y E T E E G L I L T	429	
BsgIRM	L F Q L L N D T L V D Y Y L S S - - D T S Q - - - - - L I P T G I G T Y K L S	434	
ThaIRM	S Y K Y L I D K F Q Y I Y S K C S E A D V Q T L I S N N L V F I D N G K L M L T	464	
	A Y K E L E N Y W K Q N S D F A Q L T L D S - - - - - E E F	421	
	Y E X K R X I L X N N I F G V D X D P X A V E V A K L S L L K L L E G E - - X		
BpmIRM	490	500	510
AcuIRM	L K A K R N I L E N N L F G V D V N P Y A V E V A E F S L L L K L L E G E N E A	469	
BsgIRM	Y E I K R K V L L S C I F G I D K D L N A V E A A K F G L L L K L L E G E D V Q	474	
ThaIRM	M E H K K G I L Q Q N I F G V D I D S Q A I Q V A K L S L Y I T M L E E G - - Y	502	
	Y S K K V E I L R N N I Y G V D L D P K A V E I A Q L N L L Q I L E K K - - -	459	
	S X X N X R - - - - P I L P D L X D N I K X G N S L X D N - - - - - P E X L		
BpmIRM	530	540	550
AcuIRM	S V N N F I H E H E D K I L P D L T S I I K C G N S L V D N K F F E F M P E S L	509	
BsgIRM	S I A N I R - - - - P V L P D L L D N I L F G N S L L E - - - - - P E K V	502	
ThaIRM	R E G T L R - - - - P I L P D L N D N I K H G N S I I D N - - - - - E I L	530	
	Q R L P L L Q N N I K V G N S - - - - - L	474	

Figure 10-2

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	EDDXI	XXDXNX	- - -	F E W E	- - -	F P D I	M X N G G F D V I I	G N P P Y V		
BpmIRM			570		580		590		600	
AcuIRM	EDDEI	L F K A N P	- - -	F E W E	E E F P D I	M A N G G F D A I I	I G N P P Y V		546 Box I	
BsgIRM	ELD-	H Q V E V N	- - - - -		P L D F S D L	K F D V I	V G N P P Y M		530	
ThaRM	F E D D I	N Y D I	D A T L P F D W E	Y A F P D I	I D N G G F D V I	L G N P P Y I		570		
	I D D P S I	S D R A F K	W E E E	- - -	F P E I	M K I	G G F D T I I	G N P P Y V	510	
	R I	Q N M K	X X X P X	E X X X Y X K K	- - -	Y X V A A K K N F D I	Y F L F I E K			
BpmIRM		610		620		630		640		
AcuIRM	R I	Q N M K	K Y S P E E I	E Y Y Q S K D S E Y T V A K K E T V	D K Y F L F I E R I				586 Box F	
BsgIRM	K S E D M K N I	T P L E L P L Y K K N	- - -	Y V S A Y K Q F	D K Y F L F L E R				566	
ThaRM	R I	Q I	F E E L Y G K D V V N Y L K K	- - -	K Y V S A E K F N F D I	Y V V F I E K			608 Box J	
	R I	Q N L N D E	- - -	E T G W F N K T	- - -	F K S A Y K N Y D I	Y L L F V E K		543	
	A L	X L L N E X G I	L G Y I	V P S K F F X T X Y G K K L	R E L I	T E K K X L Y K				
BpmIRM		650		660		670		680		
AcuIRM	A L I L L N P T	G L L G Y I	I P H K F F I	T K G G K E L	L R K F I	A E K H Q I	S K		626	
BsgIRM	G L A L L K E E G I	L G Y I	V P S K F T K V G A G K K L	R E L L	T D K G Y L	D S		606		
ThaRM	A L S L L N D Q G I	L G Y I	V M N K F F T T Q Y G E K L	R E L I	T S Q K L L	Y E		648		
	S F D L C K E N G I	I G F I	I P S K F I	N A Y Y G L G L	R N L I	S E T K S L	Y K		583	
	Box G (Motif II)					Box H (Motif III)				
	I I	D F G X N Q I	F X D A A T Y T C I	L I L X K T K X D X F K Y X X V X N L X T						
BpmIRM		690		700		710		720		
AcuIRM	I I N	F G V T Q V F P G R A T Y T A I	L I I	Q A N K M A Q F K Y K K V S N I	S A				666 Box I	
BsgIRM	I V S	F G A N Q I	F Q D K T T Y T C L L I	L R K T P H T D F K Y A E V R N L I	D				646	
ThaRM	I I D	F G I	N E I F N N A T T Y T C I	L I L D K T N P D E I	I I E R V I	D L N T			688	Motif IV
	L I D	F K D V Q I	F G D A A N Y T C I	L F L K I	Y K N D V F S Y I	F P K S T D T			623	
	W T	X X S X S N X X V X S X	- - -	X X L X	- - -	S D P W I	L S S N E X E E V Y X K F			
BpmIRM		730		740		750		760		
AcuIRM	E T L	D S E E N T C V Y S S	- - -	E K Y N	- - -	S D P W I	F L S P E T E A V F T K F		702	
BsgIRM	W K V	R K A D A M E F S S Q Q L S T L Q	- - -	S D A W I	L I P S E L I	S V Y H Q I			684	
ThaRM	W K A	G E S S D R K V V D H	- - -	T E F T	- - -	S T P W Y L S S N T D E E I	Y K F F		724	
	F T I	Q S V S N V D T F Q E Y K L P L P K P D H P W I	L S E N K V S E L I	R K L					663	
	X E	X X X X X L E X I S	- I D N I	F V G L Q T S A D X V Y I	F X P E X E T X D T Y					
BpmIRM		770		780		790		800		
AcuIRM	T E A	- - Q F E K L G E I	T D I	S V G L Q T S A D K I	Y I F I	P E N E T S D T Y			740	
BsgIRM	L A Q S Q K L E D I	V G I	D N I	F N G I	Q T S A N D V Y I	F V P T H E D T E N Y			724	
ThaRM	E E N M V L L E T I	S	- -	D R V F V G V Q T	D C D P V Y I	L E E V Y E E E N Y L			762	
	S R K G I	P L E I I	S	- - K N I	F Q S L T T S A D G I	Y F V Q V E S E T R D T A			701	
	Y F X	- - K K G X E Y K I	E K X I	L K P X L K G X S	- - -	I	X X Y X X X X X N			
BpmIRM		810		820		830		840		
AcuIRM	I F N	- - Y K G K R Y E I	E K S I	C C P A I	Y D L S	- - -	F G S F E S I	Q G N		774
BsgIRM	Y F I	- - K K G Q E Y K I	E K E I	T K P Y F K T T S	G E D N L	Y T Y R T F K P N			762	
ThaRM	Y C K S E Y T T E	V H K F E K D H L	K P F L K G S L D	- - -	I	K K Y T F S N V N			799	
	K I	R N I	K N N L E F A V E K T I	L R K L L K G K D	- - -	I	R R C S V D W K G		737	

Figure 10-3

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	AXVI F PYT XXDXXAXLI PLXTIKXXFPLAYKYLXSXKEXL			
	850	860	870	880
BpmIRM	AQMI F PYEI RDEEAYLLEEEETLENODYPLAWNYLNEFKEAL			814
AcuIRM	ARVI YPYTQTESSVELIPLDEIREIFPLAYKYLMSLKFL			802
BsgIRM	KWLFPYTNSENTSDLIPETTYKQYFPETWKYLESCKERL			839
ThaRM	SYVVYPYLVKDDKASLITLSEIKDRYPLAYEYFKHYELQL			777
	XX-KRSI XXR----- XNEWHQYGRXQSLXKFX-QXKI VX			
	890	900	910	920
BpmIRM	E-KRSLQGR----- NPKWYQYGRSQSLSKFHDKEKLIW			846
AcuIRM	SSPKRDI KPRPKT--- TNEWHRYGRHQSLDNCGLSQKIIIV			839
BsgIRM	AK-RKSI ERELDINPNYNEWYKYIYKKNHTRMD-QLKIVF			877
ThaRM	KTREDNKLKD---- DENWHQYIYRKNL EKFE-QKKIVT			810
	XVLAXGXXFAIDXNG-- FLFSGGGNGGGXXIVLPDQSXY			
	930	940	950	960
BpmIRM	TVLATKPPYVLDRNN--- LLFTGGGNG-- PYYGLINQSIY			881
AcuIRM	GVLSVGDKYAI DTYG--- TLISSGGTAGYCVVALPDDCKY			876
BsgIRM	PAISKGSSFCYDSDGEYYFVGSGAGGGGGGAI VLPDQS DY			917
ThaRM	QVLASKNTFAIDLNG-- EFYFVGVDNAGGYGI VLNDNNQN			848
	SYYLLGI LNSXVLEXXXXXRGSXFRRGGYYSXGKKFIENL			
	970	980	990	1000
BpmIRM	SLHYFLGI LSHPVI ESMVKARASEFRGSYYSHGKQFI EKI			921
AcuIRM	SIYYLQAILNSKYLEWFSALHGEVFRGGYI ARGTKVLKNL			916
BsgIRM	NYLSLLGI LNSEVVSYQIVRRGSKHKGSYYGVDKKRI ENL			957
ThaRM	MYYFVLALLNSNVLEFYLKNI STPFRRGGYFSYGKRFIDKL			888
	PIRKIDFDNX-E-NLFDXVSTXVKELIXIXDKI XXXXNTD			
	1010	1020	1030	1040
BpmIRM	PIRKIDFDDQDEVDKYNTVVTTVEKLIITTDRIKSESNGP			961
AcuIRM	PIRKIDFDNLEEANLHDIAATKQKELIEIYDKIDVNVN NK			956
BsgIRM	YVPLINEDNK--- NLFSNISKMVAQILDAFQKMHQAGTTD			994
ThaRM	PLLIPKD---- SRFDSVSSLSKEQMNI SKKMRNFPNTD			922
	RRX-XLQRRDXLXXXLNQLIYELYNLXVEEXTXXXNLX			
	1050	1060	1070	1080
BpmIRM	RRR-MLRRRLDALSNQLIQVINELYNISDEEYTTVLNDEM			1000
AcuIRM	RVLTPLQRMFKREKEVLDQLLSRLYNLGVDDSLIPYIKDL			996
BsgIRM	VGKEQLQQRIKMLNARI NELVYRLYNLPVEYKEYIKNALE			1034
ThaRM	ERD-LLEEREYDKRCQELNQMIYEIYGLNKLEITLLDDRLC			961
	X-A-----			
BpmIRM	LTAALGEEK			1009
AcuIRM	YEAH			1000
BsgIRM	N			1035
ThaRM	Q			932

Figure 10-4